What is claimed is:

1. A reticle for use in microlithography of a device pattern to an exposure-sensitive substrate using an energy beam, the reticle comprising:

a reticle substrate having a surface;

a device pattern, defined on the reticle substrate, to be transfer-exposed onto the exposure-sensitive substrate; and

a reticle-identification code defined on the surface of the reticle substrate, the reticle-identification code comprising multiple high-scattering regions each exhibiting a relatively high degree of reflection-scattering of irradiated probe light, the high-scattering regions being separated from one another by respective low-scattering regions exhibiting a low degree of reflection-scattering of the irradiated probe light, relative to the high-scattering regions.

2. The reticle of claim 1, wherein:

the low-scattering regions present respective surfaces that are sufficiently smooth to avoid significant reflection-scattering, from the surfaces, of probe light incident on the surfaces; and

each high-scattering region comprises multiple scattering features that reflection-scatter incident probe light.

3. The reticle of claim 2, wherein the surfaces of the low-scattering regions, on which probe light is incident, are coplanar with the surface of the reticle substrate.

4. The reticle of claim 2, wherein the scattering features in each high-scattering region comprise multiple points.

5. The reticle of claim 4, wherein the multiple points are defined by respective pyramidal or conical projections.

6. The reticle of claim 2, wherein the scattering features comprise multiple edges.

7. The reticle of claim 6, wherein the edges in each high-scattering region flank at least one channel extending in the high-scattering region and subdividing the respective high-scattering region.

8. The reticle of claim 7, wherein:

each high-scattering region has multiple respective channels subdividing the high-scattering region; and

the multiple channels extend parallel to each other.

9. The reticle of claim 7, wherein:

each high-scattering region has multiple respective channels subdividing the high-scattering region; and

the multiple channels extend perpendicularly to each other.

10. The reticle of claim 1, wherein the each high-scattering region defines at least three edges that reflection-scatter incident probe light.

11. The reticle of claim 10, wherein the multiple edges in each high-scattering region extend parallel to each other.

12. The reticle of claim 10, wherein the multiple edges in each high-scattering region extend perpendicularly to each other.

13. The reticle of claim 10, wherein the multiple edges in each high-scattering region are defined by multiple respective channels extending in each high-scattering region.

14. The reticle of claim 13, wherein the channels in each high-scattering region extend parallel to each other.

15. The reticle of claim 13, wherein the channels in each high-scattering region extend perpendicularly to each other.

16. The reticle of claim 2, wherein the features in each high-scattering region comprise a line-and-space pattern defining multiple edges.

17. The reticle of claim 16, wherein the line-and-space pattern has a pitch that is below a resolution limit of an optical system used for reading probe light reflected from the identification code.

18. The reticle of claim 2, wherein the features in each high-scattering region comprise a checkerboard pattern of projections and recesses that collectively define multiple edges.

19. The reticle of claim 18, wherein the checkerboard pattern has a pitch that is below a resolution limit of an optical system used for reading probe light reflected from the identification code.

20. A microlithographic exposure apparatus, comprising:

an illumination-optical system situated and configured to illuminate a reticle with a lithographic energy beam, the reticle comprising (i) a reticle substrate having a surface on which is defined a device pattern to be transfer-exposed onto an exposure-sensitive substrate, and (ii) a reticle-identification code defined on the surface of the reticle substrate, the identification code comprising multiple high-scattering regions each exhibiting a relatively high degree of reflection scattering of irradiated probe light, the high-scattering regions being separated from one another by respective low-scattering regions exhibiting a relatively low degree of reflection scattering of the irradiated probe light; and

a probe-light optical system situated relative to the reticle and configured to direct a beam of probe light to the identification code on the reticle and to sense probe light reflected from the identification code so as to provide an identification of the reticle.

21. In a microlithographic method in which a pattern, defined on a reticle, is transfer-exposed from the reticle to an exposure-sensitive lithographic substrate, a method for identifying a reticle, comprising:

providing on the reticle an identification code defined on a surface of the reticle, the identification code comprising multiple high-scattering regions each exhibiting a relatively high degree of reflection scattering of irradiated probe light, the high-scattering regions being separated from one another by respective low-scattering regions exhibiting a relatively low degree of reflection scattering of the irradiated probe light;

irradiating a beam of probe light on the identification code;

sensing probe light reflected from the identification code; and

determining, from the sensed probe light, an identity of the reticle corresponding to the identification code.